

# ANALYTICA CHIMICA ACTA

An international journal devoted to all branches of analytical chemistry

(Full texts are incorporated in CJESEVIER, a file in the Chemical Journals Online database available on STN International; Abstracted, indexed in: Aluminium Abstracts; Anal. Abstr.; Biol. Abstr.; BIOSIS; Chem. Abstr.; Curr. Contents Phys. Chem. Earth Sci.; Engineered Materials Abstracts; Excerpta Medica; Index Med.; Life Sci.; Mass Spectrum. Bull.; Material Business Alerts; Metals Abstracts; Sci. Citation Index)

VOL. 400 NOS. 1-3

CONTENTS

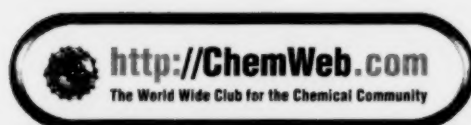
November 22nd, 1999

## Special Issue:

Measurement For The Next Millennium

Preface.....	1
Conference Photos.....	3
<i>Imaging Techniques</i>	
Analysis of chemical dynamics in microenvironments R.M. Wightman, P. Runnels and K. Troyer (Chapel Hill, NC, USA) .....	5
Assaying neurotransmitters in and around single neurons with information-rich detectors R.L. Dahlgren, J.S. Page and J.V. Sweedler (Urbana, IL, USA) .....	13
Intercalation-induced changes in DNA supercoiling observed in real-time by atomic force microscopy L.H. Pope, M.C. Davies, C.A. Laughton, C.J. Roberts, S.J.B. Tendler and P.M. Williams (Nottingham, UK) .....	27
Visualized single cell dynamics and analysis of molecular tricks T. Masujima (Hiroshima, Japan) .....	33
<i>Sensors and Biosensors</i>	
Optochemical sensing by immobilizing fluorophore-encapsulating liposomes in sol-gel thin films T. Nguyen, K.P. McNamara and Z. Rosenzweig (New Orleans, LA, USA) .....	45
Derivatized, swellable polymer microspheres for chemical transduction W.R. Seitz, M.T.V. Rooney, E.W. Miele, H. Wang, N. Kaval, L. Zhang, S. Doherty, S. Milde and J. Lenda (Durham, NH, USA) ..	55
Ionophores, ligands and reactants U.E. Spichiger-Keller (Zurich, Switzerland) .....	65
Considerations for the quantitative transduction of hybridization of immobilized DNA P.A.E. Piunno, J. Watterson, C.C. Wust and U.J. Krull (Mississauga, Ont., Canada) .....	73
Direct electron transfer between heme-containing enzymes and electrodes as basis for third generation biosensors L. Gorton, A. Lindgren (Lund, Sweden), T. Larsson (Uppsala, Sweden), F.D. Munteanu, T. Ruzgas (Lund, Sweden) and I. Gazaryan (Moscow, Russia) .....	91

(Continued overleaf)



<http://chemweb.com/gateways/elsevier.html>

**CONTENTS**  
**direct**

This journal is part of **ContentsDirect**, the **free** alerting service which sends tables of contents by e-mail for Elsevier Science books and journals. You can register for **ContentsDirect** online at: [www.elsevier.nl/locate/contentsdirect](http://www.elsevier.nl/locate/contentsdirect)

Development of an electrochemical flow injection immunoassay (FIIA) for the real-time monitoring of biospecific interactions A.J. Killard (Dublin, Ireland), S. Zhang, H. Zhao, R. John (Queensland, Australia), E.I. Iwuoha (Dublin, Ireland and St. Augusta, Trinidad and Tobago) and M.R. Smyth (Dublin, Ireland) .....	109
Bioanalytics: detailed insight into bioprocesses T. Scheper, B. Hitzmann, E. Stärk, R. Ulber (Hannover, Germany), R. Faurie, P. Sosniza (Frellstedt, Germany) and K.F. Reardon (Fort Collins, CO, USA) .....	121
Mimicry of peroxidase by co-immobilization of 1-allylimidazole and hemin on <i>N</i> -isopropylacrylamide-based hydrogel X. Wang, Y. Li and W. Chang (Beijing, China) .....	135
<i>Separation and Extraction Techniques</i>	
Calibration methods for microdialysis sampling in vivo: muscle and adipose tissue Y. Song and C.E. Lunte (Lawrence, KS, USA) .....	143
Field air analysis with SPME device J. Koziel, M. Jia, A. Khaled, J. Noah and J. Pawliszyn (Waterloo, Ont., Canada) .....	153
Bioanalytical applications of fast capillary electrophoresis R.T. Kennedy (Gainesville, FL, USA) .....	163
Derivatization of peptides and small proteins for improved identification and detection in capillary zone electrophoresis (CZE) H. Liu, B.-Y. Cho, R. Strong, I.S. Krull (Boston, MA, USA), S. Cohen (Milford, MA, USA), K.C. Chan and H.J. Issaq (Frederick, MD, USA) .....	181
Tracing polar benzene- and naphthalenesulfonates in untreated industrial effluents and water treatment works by ion-pair chromatography-fluorescence and electrospray-mass spectrometry M.C. Alonso and D. Barceló (Barcelona, Spain) .....	211
<i>Flow Injection Techniques</i>	
Trends of flow injection sample pretreatment approaching the new millennium Z.-L. Fang (Shenyang, China) .....	233
Evolution of the commutation concept associated with the development of flow analysis E.A.G. Zagatto, B.F. Reis, C.C. Oliveira, R.P. Sartini (Piracicaba, Brazil) and M.A.Z. Arruda (Campinas, Brazil) .....	249
<i>Molecular Spectroscopy</i>	
Very fast peroxyoxalate chemiluminescence T. Jonsson and K. Irgum (Umeå <sup>o</sup> , Sweden) .....	257
Micro-interferometric backscatter detection using a diode laser K. Swinney, D. Markov, J. Hankins and D.J. Bornhop (Lubbock, TX, USA) .....	265
Laser spectroscopy in analytical chemistry: light on the next millennium C. Gooijer and A.J. Mank (Amsterdam, The Netherlands) .....	281
NMR analysis of multiple samples using parallel coils: improved performance using reference deconvolution and multidimensional methods T. Hou, E. MacNamara and D. Raftery (West Lafayette, IN, USA) .....	297
<i>Atomic Spectrometry</i>	
Multielemental trace analysis of biological materials using double focusing inductively coupled plasma mass spectrometry detection J.M. Marchante-Gayón, C.S. Muñoz, J.I.G. Alonso and A. Sanz-Medel (Oviedo, Spain) .....	307
Biochemical speciation analysis by hyphenated techniques R. Lobiński (Pau, France and Warszawa, Poland) and J. Szpunar (Pau, France) .....	321
<i>Electroanalytical Techniques</i>	
200 years of practical electroanalytical chemistry: past, present and future directions illustrated by reference to the on-line, on-stream and off-line determination of trace metals in zinc plant electrolyte by voltammetric and potentiometric techniques A.M. Bond (Clayton, Vic., Australia) .....	333
Stripping voltammetry for the determination of trace metal speciation and in-situ measurements of trace metal distributions in marine waters E.P. Achterberg and C. Braungardt (Plymouth, UK) .....	381
<i>Chemometrics</i>	
Chemometrics: the issues of measurement and modelling S.J. Haswell and A.D. Walmsley (Hull, UK) .....	399
Molecular challenges in modern chemometrics R. Wehrens, R. de Gelder, G.J. Kemperman, B. Zwanenburg and L.M.C. Buydens (Nijmegen, The Netherlands) .....	413
<i>Metrology</i>	
Reliability of analytical information in the XX1st century M. Valcárcel and A. Ríos (Cordoba, Spain) .....	425
Author Index .....	433
Calendar of forthcoming meetings .....	N1

